

Remarks

Applicants have amended specification as shown, *supra*, to indicate used trademarks CYTM3 (a trademark of GE Healthcare Bio-Sciences Ltd or its subsidiaries) and OLIGREEN (a trademark of Molecular Probes Inc, Eugene, Oregon) by the use of capital letters. Applicants have also added a generic description “orange fluorescing cyanine” for CYTM3 in paragraph [0178] and “an unsymmetrical cyanine dye” for OLIGREEN in paragraph [0192]. Both of these dyes and their properties are well known fluorescent dyes and were well known to one skilled in the art at the time the application was filed (see, e.g., Exhibits A and B). Accordingly, no new matter has been added by the amendments and their entry is respectfully requested.

Applicants have amended claims 19, 20 and 26 to a preferred embodiment, namely, wherein the nucleic acid/fluorophore complex is attached to a fibrous or particulate substrate. Support for this amendment can be found throughout the specification, for example, in paragraph [097]. Applicants have further amended the format of the claims to remove periods appearing in the middle of the claims and replacing them with parenthesis after the letter indicating each step. The amendment is clerical. Accordingly, no new matter has been added by the amendments and their entry is respectfully requested.

Applicants have added new claims 28 and 29 directed to preferred embodiments. Support for the new claims can be found, for example, in paragraphs [024] and [102]. Accordingly, no new matter has been added by the new claims and their entry is respectfully requested.

The Examiner objected to the specification because of use of trademarks that were not capitalized. Applicants respectfully submit that the amendments to the specification have obviated the objection.

The Examiner rejected claims 26 and 27 under 35 U.S.C. 102(e) as being anticipated by Liebholz et al. (U.S. Patent No. 7,029,852)(“Liebholtz”).

Applicants respectfully submit that the rejection be withdrawn for the following reasons.

Applicants have amended the claims as shown, *supra*. The claims require that the fluorophore-labeled nucleic acids are attached to a fibrous or particular support. Liebholz does not teach or suggest use of fibrous or particular support. Liebholz specifically states that in one embodiment, an aptamer is attached to a “suitable organic substrate” (col. 4, lines 3-4). Glass is mentioned as a preferred substrate. In addition to glass, Liebholz indicates that certain plastics

may also be used (col. 4, lines 7-10). The only other type of support Liebholtz describes in “a decellularized biomembrane” (col. 11, lines 53-54). No other description of substrates is provided.

Applicants submit herewith a Declaration by Dr. Joel White (“Declaration”) describing what a kind of “suitable organic substrate” would be envisioned by an expert reading Liebholtz. Accordingly, Applicants respectfully submit that the presently claimed fibrous or particular support, would not be envisioned by one reading Liebholtz nor would it be suitable for the purposes of Liebholtz (Declaration, pars. 13 and 14). Liebholtz describes a system that is directed to particle separation and detection (Declaration, pars. 7-12). The method of Liebholtz is based on particle separation (see, e.g., claim 11, Declaration, par. 7). Liebholtz requires that particles be impinged on the surface. To capture or “impinge” the particles on a detection surface using the system of Liebholtz, one have to use an essentially solid surface, not a surface with an open structure, such as particulate or fibrous structure, line silkscreen or fiberglass (par. 13). A nucleic acids attached to an open mesh would results in letting through the particles that would be needed to be impinged on the surface (Declaration, par. 13). This is not what the present invention is about. In the present invention, the system detects gaseous vapors, not particles, in fluids (Declaration, par. 12). The specification describes that “highly permeable, high surface area, textured, fibrous or particulate substrates which have substantial open porosity for unimpeded transport of vapors and fluids are preferred” (Specification, pars. [096]-[098]). Certainly the specific embodiments wherein the support is a silk screen or fiberglass mesh cannot be envisioned from the system of Liebholtz.

Accordingly, in view of the above, Applicants respectfully request that the rejection of claims 26 and 27 under 35 U.S.C. 102(e) over Liebholtz be withdrawn.

The Examiner rejected claim 19, 20, 21, and 24 under 35 U.S.C. 103(a) as allegedly being unpatentable over Liebholtz, in view of Melker et al. (U.S. Patent Application publication No. 2002/0177232) (“Melker”).

Applicants respectfully submit that the rejection be withdrawn for the following reasons.

As described, *supra*, Liebholtz fails to teach or suggest that the nucleic acids are attached to a fibrous or particular support.

Melker does not cure the deficiency in Liebholtz. All Melker teaches is use of neural network for the generation of comparisons between the detected signal and a known pattern.

Accordingly, in view of the above, Applicants respectfully request that the rejection of claims 19, 20, 21, and 24 under 35 U.S.C. 103(a) over Liebholz in view of Melker should be withdrawn.

The Examiner rejected claims 20, 22 and 25 under 35 U.S.C. 103(a) as allegedly being unpatentable over Liebholz, in view of Melker and further in view of Sunshine et al. (U.S. Patent No. 6,234,006)("Sunshine").

Applicants respectfully submit that the rejection be withdrawn for the following reasons.

As described, *supra*, Liebholtz in combination with Melker fails to teach or suggest that the nucleic acids are attached to a fibrous or particular support.

Sunshine does not cure the deficiency in Liebholtz and Melker. All Sunshine teaches is an application of a sensing system to a shipping container or a sensing system that is hand held.

Accordingly, in view of the above, Applicants respectfully request that the rejection of claims 20, 22 and 25 under 35 U.S.C. 103(a) over Liebholz, in view of Melker and further in view of Sunshine should be withdrawn.

The Examiner further rejected claims 20 and 23 under 35 U.S.C. 103(a) as being unpatentable over Liebholz, in view of Melker as applied to claims 19, 20, 21 and 24 above, and further in view of Vivekananda et al. (U.S. Patent Application publication No. 2004/0023266)("Vivekananda").

Applicants respectfully submit that the rejection be withdrawn for the following reasons.

As described, *supra*, Liebholtz in combination with Melker fails to teach or suggest that the nucleic acids are attached to a fibrous or particular support.

Vivekananda does not cure the deficiency in the combination of Liebholtz and Melker. All Vivekananda teaches is that a system can be applied to airport detection systems reading on X-ray screening machine.

Accordingly, in view of the above, Applicants respectfully request that the rejection of claims 20 and 23 under 35 U.S.C. 103(a) over Liebholz et al, in view of Melker and further in view of Vivekananda should be withdrawn.

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Page 12 of 12

In view of the foregoing, Applicants respectfully submit that all claims are in condition for allowance. Early and favorable action is requested.

In the event that any additional fees are required, the PTO is authorized to charge our deposit account No. 50-0850.

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Respectfully submitted,

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